AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Kindly cancel claims 1 - 12

13. (new) An optical amplifier, comprising:

a single mode light source; and

a multimode fiber amplifier having a dopant concentration area within a core thereof which is smaller than a diameter of said core, such that said amplifier preferentially propagates single mode light.

14. (new) An optical amplifier, comprising:

a single mode light source;

means for coupling said single mode light into a multimode fiber amplifier; and

a core of said multimode fiber amplifier having a dopant profile such that gain is substantially confined to a fundamental mode propagating therethough.

15. (new) An optical amplifier, comprising:

a single mode light source; and

a multimode fiber amplifier having a dopant profile wherein higher concentrations of dopant reside within a central region of a core thereof, as compared with that at peripheral regions of said core, to preferentially amplify single mode light.

16. (new) An optical amplifier, comprising:

a single mode light source; and

a multimode fiber amplifier having a dopant concentration area within a region thereof which is smaller than a diameter of said core, to guide and amplify single mode light.

17. (new) An optical amplifier, comprising:

a single mode light source; and

a multimode fiber amplifier having a dopant concentration area within a region thereof which is smaller than a diameter of said core, to preferentially amplify single mode light.

18. (new) A single mode optical amplifier, comprising:

a single mode light source; and

a doped, pumped fiber amplifier receiving an output of said light source, and exhibiting a gain-guiding characteristic by confining a dopant concentration therein to a center portion of a core thereof.

19. (new) A single mode optical amplifier as claimed in claim 16, wherein said dopant concentration is confined within an area of said core having a diameter which is substantially half the diameter of said core.

20. (new) A single mode optical amplifier as claimed in claim 16, wherein said dopant concentration is confined within an area of said core having a diameter of approximately 25 microns, said core having a diameter of approximately 50 microns.

21. (new) A single mode optical amplifier, comprising:

a single mode light source; and

a doped, pumped fiber amplifier receiving an output of said light source, and having a gain sufficient to exhibit a gain-guiding characteristic such that a gain profile thereof determines the single mode profile of the guided light.

22. (new) A single mode optical amplifier, comprising:

a single mode light source; and

a doped, pumped fiber amplifier receiving an output of said light source, and having a gain sufficient to exhibit a gain-guiding characteristic such that single mode light propagating within said fiber amplifier is confined to a central portion of a core of said fiber due solely to a gain profile thereof.

23. (new) A single mode optical amplifier, comprising:

a single mode light source; and

a doped, pumped fiber amplifier receiving an output of said light source, and having a gain sufficient to exhibit a gain-guiding characteristic such that a gain profile thereof determines the single mode profile of the guided light, to the exclusion of a normal single mode profile of a fiber core thereof.

24. (new) A single mode optical amplifier, comprising:

a single mode light source; and

a doped, pumped fiber amplifier receiving an output of said light source, and

means for reducing an alignment tolerance of the light source with respect to said fiber amplifier, comprising a gain-guiding mechanism within said fiber amplifier.

25. (new) A single mode optical amplifier, comprising:

a single mode light source; and

a doped, pumped fiber amplifier receiving an output of said light source, and

means for tolerating a reduction in beam quality of said light source, comprising a gain-guiding mechanism within said fiber amplifier.

26. (new) An optical amplifier, comprising:

a single mode light source;

means for coupling said single mode light into a multimode fiber amplifier; and

a core of said multimode fiber amplifier having a dopant profile wherein the doping is predominately at the center of said core and has a significantly smaller diameter than said core, such that said multimode fiber amplifier outputs predominately in a fundamental mode thereof.